

REMARKS

Applicants have amended claims 1 and 4.

Claims 1-7 have again been rejected under 35 USC 102(e) as anticipated by U.S. Patent No. 6,674,178 (Ikegami). Applicants respectfully traverse this rejection.

In the amendment filed March 2, 2006, applicants explained that the claimed method includes a two-step pressure application and Ikegami does not disclose such a pressure application method. Specifically, applicants pointed out that Ikegami's room temperature pressure application step and hot press step, which were relied upon by the Examiner for teaching applicants' two-step pressure application in the Advisory Action, actually maintain the same pressure throughout the two process steps.

In this Action, the Examiner contends that Ikegami's process shown in FIG. 7, in which Ikegami's resin 17 spreads between semiconductor substrate 12 and resin board 15, and Ikegami's process shown in FIG. 8, in which Ikegami's bump electrode 13 is crushed, correspond to the claimed two-step pressure application. The Examiner also equates Ikegami's pad electrode 16 to the claimed first electrode and Ikegami's bump electrode 13 to the claimed second electrode. Applicants respectfully disagree.

In the second step of the claimed two-step pressure application, the pressure is applied to the central portion of the back surface of the semiconductor chip so that the sealing resin extends in the space between the substrate and the front surface of the semiconductor chip. On the contrary, in the process shown in Ikegami's FIG. 8, which the Examiner equates to the claimed second pressure application step, the resin 17 has already spread between the two substrates 12 and 15 during Ikegami's process shown in FIG. 7.

For the Examiner to understand the claimed manipulation of the sealing resin, applicants have amended claim 1 to state in the first pressure application step that the pressure is applied to the peripheral portion of the back surface of the semiconductor chip so that the first and second electrodes come into contact before the sealing resin begins to enter a space between the first and

second electrodes. This amendment finds support, for example, at page 5, lines 2-5, of the specification. Because the sealing resin does not enter the space between the first and second electrodes in the first pressure application step and spreads, after the contact of the two electrodes, between the substrate and the semiconductor chip in the second pressure application step, the electric contact between the first and second electrodes is secured and a larger amount of fillers may be contained in the sealing resin if necessary. See, for example, page 5, lines 12-17, of the specification.

On the contrary, in Ikegami's first step shown in FIG. 7, "the resin 17 is spread outward, so that before the bump electrode 13 and pad electrode 16 make contact, the resin 17 covers the pad electrode 16." See, for example, column 8, lines 15-22, of Ikegami. In fact, Ikegami requires that the resin 17 spread between the bump electrode 13, which the Examine equates to the claimed second electrode, and the pad electrode 16, which the Examiner equates to the claimed first electrode, before the contact is made by the two electrodes 13 and 16, because the fillers 18 contained in the resin 17 provide fixing function during the crushing of the bump electrode 13. See, for example, column 8, lines 55-65, of Ikegami.

Ikegami does not teach or suggest the claim limitation that a pressure is applied to the peripheral portion of the back surface of the semiconductor chip so that the first and second electrodes come into a contact before the sealing resin begins to enter a space between the first and second electrodes. Claim 4 recites an application of a pressure similar to that of claim 1, which is not disclosed by Ikegami.

The rejection of claims 1-7 under 35 USC 102(e) on Ikegami should be withdrawn because Ikegami does not teach or suggest the claimed pressure application to avoid the intrusion of the sealing resin between the first and second electrodes.

In light of the above, a Notice of Allowance is solicited.

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition

for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952**, referencing Docket No. **606402017800**.

Dated: August 16, 2006

By:

Respectfully submitted,



Barry E. Bretschneider
Registration No. 28,055

Morrison & Foerster LLP
1650 Tysons Boulevard, Suite 300
McLean, VA 22102-3915
Telephone: (703) 760-7743
Facsimile: (703) 760-7777